WHAT IS CLAIMED IS:

1. A high-frequency module comprising:

a high-frequency filter arranged to attenuate a spurious high-frequency signal;

a high-frequency switch arranged to switch a transmission signal and a reception signals;

a transmitter-side balun arranged to convert a balanced signal into an unbalanced signal; and

a receiver-side balun arranged to convert an unbalanced signal into a balanced signal;

wherein said high-frequency filter is disposed between an antenna and a first terminal of said high-frequency switch, a second terminal of said high-frequency switch is connected to an unbalanced terminal of said transmitter-side balun, a third terminal of said high-frequency switch is connected to an unbalanced terminal of said receiver-side balun, and said high-frequency filter is a high-pass filter.

2. A high-frequency module according to claim 1, wherein the high-pass filter attenuates transmission and reception signals of GSM in the 900 MHz band, DCS in the 1.8 GHz band, and PCS in the 1.9 GHz band.

3. A high-frequency module according to claim 1, the high-frequency switch attenuates the third harmonic of reception signal of a 2.4 GHz communication system.

4. A high-frequency module according to claim 1, wherein the receiver-side balun attenuates the second harmonic of the reception signal.

5. A high-frequency module according to claim 1, wherein the high-pass filter includes at least one inductor and at least one capacitor.

6. A high-frequency module according to claim 1, wherein the high-frequency switch includes at least one diode, at least one inductor, at least one capacitor, and at least one resistor.

7. A high-frequency module according to claim 1, further comprising a multilayer substrate including a laminated body having a plurality of dielectric layers, wherein the electrical connections between the second terminal of the high-pass filter and the first terminal of the high-frequency switch, between the second terminal of the high-frequency switch and the unbalanced terminal of the transmitter-side balun, and between the third terminal of

the high-frequency switch and the unbalanced terminal of the receiver-side balun are achieved within the multilayer substrate.

8. A high-frequency module comprising:

a high-frequency filter arranged to attenuate a spurious high-frequency signal;

a high-frequency switch for switching a transmission signal and a reception signal;

a transmitter-side balun for converting a balanced signal into an unbalanced signal; and

a receiver-side balun for converting an unbalanced signal into a balanced signal;

wherein said high-frequency filter is disposed between an antenna and a first terminal of said high-frequency switch, a second terminal of said high-frequency switch is connected to an unbalanced terminal of said transmitter-side balun, a third terminal of said high-frequency switch is connected to an unbalanced terminal of said receiver-side balun, and said high-frequency filter is a notch filter.

9. A high-frequency module according to claim 8, wherein the high-pass filter attenuates transmission and reception signals of GSM in the 900 MHz band, DCS in the 1.8 GHz band, and PCS in the 1.9 GHz band.

10. A high-frequency module according to claim 8, the high-frequency switch attenuates the third harmonic of reception signal of a 2.4 GHz communication system.

11. A high-frequency module according to claim 8, wherein the receiver-side balun attenuates the second harmonic of the reception signal.

12. A high-frequency module according to claim 8, wherein the high-pass filter includes at least one inductor and at least one capacitor.

13. A high-frequency module according to claim 8, wherein the high-frequency switch includes at least one diode, at least one inductor, at least one capacitor, and at least one resistor.

14. A high-frequency module according to claim 8, further comprising a multilayer substrate including a laminated body having a plurality of dielectric layers, wherein the electrical connections between the second terminal of the high-pass filter and the first terminal of the high-frequency switch, between the second terminal of

the high-frequency switch and the unbalanced terminal of the transmitter-side balun, and between the third terminal of the high-frequency switch and the unbalanced terminal of the receiver-side balun are achieved within the multilayer substrate.

15. A high-frequency module comprising:

one of a high-pass filter and a notch filter arranged to attenuate spurious high-frequency signal;

a high-frequency switch arranged to switch a transmission signal and a reception signal;

a transmitter-side balun arranged to convert a balanced signal into an unbalanced signal; and

a receiver-side balun arranged to convert an unbalanced signal into a balanced signal;

wherein said one of the high-pass filter and the notch filter is disposed between an antenna and a first terminal of said high-frequency switch, a second terminal of said high-frequency switch is connected to an unbalanced terminal of said transmitter-side balun, a third terminal of said high-frequency switch is connected to an unbalanced terminal of said receiver-side balun, and said high-frequency module further comprises a multilayer substrate including a laminated body having a plurality of dielectric layers.

16. A high-frequency module according to Claim 15, wherein said multilayer substrate contains all of the components that define said one of the high-pass filter and the notch filter, said transmitter-side balun, and said receiver-side balun, and some of the components that define said high-frequency switch, and said multilayer substrate has the remainder of the components that define said high-frequency switch mounted thereon.

17. A high-frequency module according to claim 15, wherein the high-pass filter attenuates transmission and reception signals of GSM in the 900 MHz band, DCS in the 1.8 GHz band, and PCS in the 1.9 GHz band.

18. A high-frequency module according to claim 15, the high-frequency switch attenuates the third harmonic of reception signal of a 2.4 GHz communication system.

19. A high-frequency module according to claim 15, wherein the receiver-side balun attenuates the second harmonic of the reception signal.

20. A high-frequency module according to claim 15, wherein the high-pass filter includes at least one inductor and at least one capacitor.

21. A high-frequency module according to claim 15, wherein the high-frequency switch includes at least one diode, at least one inductor, at least one capacitor, and at least one resistor.

22. A high-frequency module according to claim 15, wherein the electrical connections between the second terminal of the high-pass filter and the first terminal of the high-frequency switch, between the second terminal of the high-frequency switch and the unbalanced terminal of the transmitter-side balun, and between the third terminal of the high-frequency switch and the unbalanced terminal of the receiver-side balun are achieved within the multilayer substrate.

23. A radio device including a high-frequency module according to Claim 1.

24. A radio device including a high-frequency module according to Claim 8.

25. A radio device including a high-frequency module according to Claim 15.